

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : Chemurgic's 10-45-10

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.3. Details of the supplier of the safety data sheet

Chemurgic  
PO Box 2106  
Turlock, CA 95381

#### 1.4. Emergency telephone number

Emergency numbers : INFOTRAC: 1-800-535-5053  
: EPA NATIONAL RESPONSE CENTER: (800) 424-8802

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Eye Irrit. 2B H320  
STOT RE 2 H373  
Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H320 - Causes eye irritation  
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) : P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P264 - Wash ... thoroughly after handling  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P314 - Get medical advice/attention if you feel unwell  
P337 + P313 - If eye irritation persists: Get medical advice/attention  
P501 - Dispose of contents/container to ... specify in accordance with local/regional/national regulations

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Monoammonium Phosphate	(CAS No) 7722-76-1		Eye Irrit. 2B, H320 STOT SE 3, H335
urea	(CAS No) 57-13-6		Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335

Name	Product identifier	%	Classification (GHS-US)
copper(II) sulfate, pentahydrate	(CAS No) 7758-99-8		Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335
manganese(II)sulfate, monohydrate	(CAS No) 10034-96-5		Eye Irrit. 2B, H320 STOT SE 3, H335
zinc sulfate, monohydrate	(CAS No) 7446-19-7		Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

manganese(II)sulfate, monohydrate (10034-96-5)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup>

#### 8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection : Wear appropriate mask.

Other information : Do not eat, drink or smoke during use.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Dark blue granules.

Color : Dark blue

Odor : Fertilizer like odor

Odor threshold : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapor pressure : No data available

Relative vapor density at 20 °C : No data available

Relative density : No data available

Solubility : Soluble.  
Water: Solubility in water of component(s) of the mixture :  
•: 38 g/100ml •: 100 g/100ml •: 23 g/100ml •: 100 g/100ml •: 35 g/100ml

Log Pow : No data available

Log Kow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : No data available

Oxidizing properties : No data available

Explosive limits : No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable. Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Excessive heat and open flame. Dust generation and damp areas. Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Oxidizing agent. Acids. bases. Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Extremely high temperatures. fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

PLANT HEALTH technologies Folo Spray 10-45-10	
LD50 oral rat	2618 mg/kg
ATE US (oral)	2618.00000000 mg/kg body weight

Monoammonium Phosphate (7722-76-1)	
LD50 oral rat	5750 mg/kg (Rat)
LD50 dermal rat	> mg/kg
LD50 dermal rabbit	> 7940 mg/kg (Rabbit)
ATE US (oral)	5750.00000000 mg/kg body weight

urea (57-13-6)	
LD50 oral rat	8471 mg/kg (Rat)
LD50 dermal rat	> 3200 mg/kg (Rat)
LD50 dermal rabbit	> 21000 mg/kg (Rabbit)
ATE US (oral)	8471.00000000 mg/kg body weight

copper(II) sulfate, pentahydrate (7758-99-8)	
LD50 oral rat	300 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 482 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit; Literature study; OECD 402: Acute Dermal Toxicity)
ATE US (oral)	300.00000000 mg/kg body weight

zinc sulfate, monohydrate (7446-19-7)	
LD50 oral rat	1710 mg/kg
ATE US (oral)	1710.00000000 mg/kg body weight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes eye irritation.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified.

Specific target organ toxicity (repeated exposure)	: May cause damage to organs through prolonged or repeated exposure. Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Monoammonium Phosphate (7722-76-1)</b>	
LC50 fish 1	155 ppm (96 h; Pimephales promelas)
<b>urea (57-13-6)</b>	
LC50 fish 1	> 6810 mg/l (96 h; Leuciscus idus)
EC50 Daphnia 1	> 10000 mg/l (48 h; Daphnia magna)
LC50 fish 2	17500 mg/l (96 h; Poecilia reticulata)
EC50 Daphnia 2	> 10000 mg/l (24 h; Daphnia magna)
TLM fish 1	17500 ppm (96 h; Poecilia reticulata)
Threshold limit other aquatic organisms 1	120000 mg/l (16 h; Bacteria; Toxicity test)
Threshold limit other aquatic organisms 2	> 10000 mg/l (Pseudomonas putida)
Threshold limit algae 2	> 10000 mg/l (168 h; Scenedesmus quadricauda)
<b>copper(II) sulfate, pentahydrate (7758-99-8)</b>	
LC50 fish 1	1.5 mg/l (24 h; Lepomis macrochirus; Toxicity test)
EC50 Daphnia 1	0.109 - 0.798 mg/l (48 h; Daphnia magna; Anhydrous form)
LC50 fish 2	0.17 mg/l (24 h; Salmo gairdneri (Oncorhynchus mykiss); Anhydrous form)
TLM fish 1	3.8 ppm 24 h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit algae 1	0.01 - 0.28,72 h; Selenastrum capricornutum; Anhydrous form
Threshold limit algae 2	0.368 mg/l (72 h; Pseudokirchneriella subcapitata; Anhydrous form)
<b>manganese(II)sulfate, monohydrate (10034-96-5)</b>	
LC50 fish 1	2850 mg/l (96 h; Colisa fasciatus; Anhydrous form)
EC50 Daphnia 1	8.28 mg/l (48 h; Daphnia magna; Anhydrous form)
LC50 fish 2	33.8 mg/l (96 h; Pimephales promelas; Anhydrous form)
EC50 Daphnia 2	10 mg/l (24 h; Daphnia magna; Anhydrous form)
Threshold limit algae 1	25.7 mg/l (Phaeodactylum; Anhydrous form)
<b>zinc sulfate, monohydrate (7446-19-7)</b>	
LC50 fish 1	1.7 mg/l (96 h; Poecilia reticulata; Anhydrous form)
EC50 Daphnia 1	0.56 mg/l (48 h; Daphnia magna; Anhydrous form)
LC50 fish 2	2.4 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Anhydrous form)
EC50 Daphnia 2	1 mg/l (24 h; Daphnia magna; Anhydrous form)

### 12.2. Persistence and degradability

<b>PLANT HEALTH technologies Folo Spray 10-45-10</b>	
Persistence and degradability	Not established.
<b>Monoammonium Phosphate (7722-76-1)</b>	
Persistence and degradability	Biodegradability in water: no data available. Not established.
<b>urea (57-13-6)</b>	
Persistence and degradability	Inherently biodegradable. Hydrolysis in water. Not established.
ThOD	0.27 g O <sub>2</sub> /g substance
<b>copper(II) sulfate, pentahydrate (7758-99-8)</b>	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

<b>copper(II) sulfate, pentahydrate (7758-99-8)</b>	
BOD (% of ThOD)	Not applicable
<b>manganese(II)sulfate, monohydrate (10034-96-5)</b>	
Persistence and degradability	Biodegradability: not applicable. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
<b>zinc sulfate, monohydrate (7446-19-7)</b>	
Persistence and degradability	Biodegradability: not applicable. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

### 12.3. Bioaccumulative potential

<b>PLANT HEALTH technologies Folo Spray 10-45-10</b>	
Bioaccumulative potential	Not established.
<b>Monoammonium Phosphate (7722-76-1)</b>	
Bioaccumulative potential	Not bioaccumulative. Not established.
<b>urea (57-13-6)</b>	
BCF fish 1	1 (72 h; Brachydanio rerio; Fresh water)
BCF other aquatic organisms 1	11700 (Chlorella sp.)
Log Pow	-2.59 - -1.59
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
<b>copper(II) sulfate, pentahydrate (7758-99-8)</b>	
Bioaccumulative potential	Bioaccumable. Not established.
<b>manganese(II)sulfate, monohydrate (10034-96-5)</b>	
Bioaccumulative potential	Not established.
<b>zinc sulfate, monohydrate (7446-19-7)</b>	
BCF fish 1	59 - 242 (Cyprinus carpio; Anhydrous form)
BCF fish 2	59 - 242 (Cyprinus carpio; Test duration: 8 weeks)
Bioaccumulative potential	Bioaccumable. Not established.

### 12.4. Mobility in soil

<b>copper(II) sulfate, pentahydrate (7758-99-8)</b>	
Ecology - soil	Toxic to flora.

### 12.5. Other adverse effects

Effect on ozone layer	: No additional information available
Effect on the global warming	: No known ecological damage caused by this product.
Other information	: Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT  
Not regulated for transport

### Additional information

Other information : No supplementary information available.

### ADR

Transport document description :

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory except for:

copper(II) sulfate, pentahydrate	CAS No 7758-99-8	
manganese(II)sulfate, monohydrate	CAS No 10034-96-5	
zinc sulfate, monohydrate	CAS No 7446-19-7	

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

#### **copper(II) sulfate, pentahydrate (7758-99-8)**

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

#### **manganese(II)sulfate, monohydrate (10034-96-5)**

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

#### **zinc sulfate, monohydrate (7446-19-7)**

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

#### Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

### 15.2.2. National regulations

No additional information available

### 15.3. US State regulations

## SECTION 16: Other information

:

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 3 (Oral)

Acute toxicity (oral) Category 3



## SAFETY DATA SHEET

### Chemurgic's10-45-10

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H301	Toxic if swallowed
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H320	Causes eye irritation
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SDS US (GHS HazCom 2012)

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